SAFETY COMPLIANCE TESTING FOR FMVSS NO. 110 (INDICANT)
TIRED SELECTION AND RIMS

HONDA OF AMERICA MFG., INC.
2003 HONDA ELEMENT, MPV
NHTSA NO. C35309

GENERAL TESTING LABORATORIES, INC.
1623 LEEDSTOWN ROAD
COLONIAL BEACH, VIRGINIA 22443

SEPTEMBER 10, 2003
FINAL REPORT

PREPARED FOR

U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
SAFETY ENFORCEMENT
OFFICE OF VEHICLE SAFETY COMPLIANCE
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    - June 05, 2003

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    - This test was conducted on the subject, 2003 Honda Element MPV in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-110-02 (partial), to gather data relating to the normal load requirements specified in FMVSS 110. NHTSA’s Office of Safety Performance Standards requested this data to support the agency's TREAD tire rulemaking efforts.

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## APPENDIX – Normal Load Occupation Distribution
SECTION 1

INTRODUCTION

1.0 PURPOSE OF INDICANT TEST

A 2003 Honda Element MPV was subjected to a FMVSS No. 110 (Indicant) test intended to gather data relating to the normal load requirements specified in FMVSS 110. NHTSA's Office of Safety Performance Standards requested this data to support the agency's TREAD tire rulemaking efforts.

1.1 TEST VEHICLE

The test vehicle was a 2003 Honda Element MPV. Nomenclature applicable to the test vehicle are:

A. Vehicle Identification Number: 5J6YH28513L025140

B. NHTSA No.: C35309

C. Manufacturer: HONDA OF AMERICA MFG., INC.

D. Manufacture Date: 05/03

1.2 TEST DATE

The test vehicle was subjected to testing on June 05, 2003.
SECTION 2

TEST PROCEDURE AND SUMMARY OF RESULTS

2.0 TEST PROCEDURE

The vehicle was inspected, photographed and filled with fuel. It was then weighed to establish total curb weight and the weights of all wheels were measured and recorded. The vehicle was then ballasted to its normal load condition (refer to appendix) and the weights of all wheels were measured and recorded. Tire information labeling data and tire sidewall data were recorded.

This indicant test did not include any other requirements in FMVSS 110.

2.1 SUMMARY OF RESULTS

Currently FMVSS 110 applies only to passenger cars. The subject Honda Element is a multipurpose passenger vehicle (MPV) and therefore it is not required to meet FMVSS 110 requirements. It was subjected to the normal load testing as executed for FMVSS 110 compliance verification for information only.
SECTION 3
TEST DATA
DATA SHEET 1
SUMMARY

VEHICLE MAKE/MODEL/BODY STYLE: 2003 HONDA ELEMENT MPV
VEHICLE NHTSA NO.: C35309;
VIN: 5J6YH28513L025140
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 06/05/03

REQUIREMENT

The vehicle is equipped with tires that meet the requirements of FMVSS 109 or FMVSS 119. YES

The vehicle normal load on the tire is not greater than the high speed performance test load specified in FMVSS 109 paragraph S5.5 or FMVSS 119 paragraph S7.4. YES

For passenger cars, the tire information placard is permanently affixed to the glove compartment door or equally accessible location; and displays the required information (FMVSS 110, S4.3). N/A

For vehicles other than passenger cars, a combined certification/tire information label or separate tire information label is permanently affixed to either the hinge pillar, door-latch post or to the inward-facing surface of the door next to the driver's seating position (FMVSS 120, S5.3). YES

REMARKS:

RECORDED BY: DATE: 06/05/03
APPROVED BY:
DATA SHEET 2
TEST VEHICLE INFORMATION/RECEIVING INSPECTION

LABORATORY: GENERAL TESTING LABORATORIES

DATE: 06/05/03

VEHICLE MODEL YEAR/MAKE/MODEL/BODY STYLE: 2003 HONDA ELEMENT MPV

MANUFACTURE DATE: 05/03
NHTSA NO.: C35309
BODY COLOR: BLUE

VIN: 5J8YH28513L025140

VEHICLE TYPE: MPV

GVWR 2020 kg (4450 lbs) GAWR(Fr) 1045 kg (2300 lbs) GAWR(Rr) 1000 kg (2205 lbs)

BELTED SEATING POSITIONS: FRONT 2 MID N/A REAR 2 OTHER N/A

ENGINE DATA:
4 Cylinders 2.4 Liters ___ Cubic Inches

TRANSMISSION DATA:
X Automatic ___ Manual ___ No. of Speeds

FINAL DRIVE DATA:
___ Rear Drive ___ Front Drive X 4 Wheel Drive

INSTALLED TIRE DATA: Size - P215/70R16 Mfr. - GOODYEAR

CHECK APPROPRIATE BOXES FOR VEHICLE EQUIPMENT/MAKE SURE ALL OPTIONS ON WINDOW STICKER ARE LISTED:

<table>
<thead>
<tr>
<th>X</th>
<th>Air Conditioning</th>
<th>X</th>
<th>Traction Control</th>
<th>X</th>
<th>Clock</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Tinted Glass</td>
<td>X</td>
<td>A1 Wheel Drive</td>
<td></td>
<td>Roof Rack</td>
</tr>
<tr>
<td>X</td>
<td>Power Steering</td>
<td>X</td>
<td>Cruise Control</td>
<td>X</td>
<td>Console</td>
</tr>
<tr>
<td>X</td>
<td>Power Windows</td>
<td>X</td>
<td>Rear Window Defroster</td>
<td>X</td>
<td>Driver Air Bag</td>
</tr>
<tr>
<td>X</td>
<td>Power Door Locks</td>
<td>Sun Roof or T-Top</td>
<td>X</td>
<td>Passenger Air Bag</td>
<td></td>
</tr>
<tr>
<td>Power Seat(s)</td>
<td>X</td>
<td>Tachometer</td>
<td>X</td>
<td>Front Disc Brakes</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td>Power Brakes</td>
<td>X</td>
<td>Tilt Steering Wheel</td>
<td>X</td>
<td>Rear Disc Brakes</td>
</tr>
<tr>
<td>X</td>
<td>Antilock Brake System</td>
<td>X</td>
<td>AM/FM/CD</td>
<td></td>
<td>Other</td>
</tr>
</tbody>
</table>

ARE ALL OPTIONS LISTED ON "WINDOW STICKER" PRESENT ON THE TEST VEHICLE:
(YES/NO) ___ Yes ___

REMARKS:

RECORDED BY: [Signature] [Signature] DATE: 06/05/03

APPROVED BY: [Signature] [Signature]
DATA SHEET 3
CURB WEIGHT WITH OPTIONS AND NORMAL LOAD

VEHICLE MAKE/MODEL/BODY STYLE: 2003 HONDA ELEMENT MPV
VEHICLE NHTSA NO.: C35309; VIN: 5J6YH28513L025140
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 06/05/03

Full Fluid Levels:
Fuel Full; Coolant Full; Other Fluids Full

Tire Pressure:
LF 220 KPA (32 psi) LR 235 KPA (34 psi)
RF 220 KPA (32 psi) RR 235 KPA (34 psi)

A. MEASURED CURB WEIGHT WITH INSTALLED OPTIONS AND ACCESSORIES

LF 458 KG (1010 LB) LR 354 KG (781 LB)
RF 445 KG (980 LB) RR 342 KG (753 LB)

Front Axle 603 KG (1990 LB) Rear Axle 696 KG (1534 LB)

Total Vehicle 1598 KG (3524 LB)

B. MEASURED VEHICLE WEIGHT IN NORMAL LOAD CONDITION

(1) Seating Capacity (from Tire Information Placard) = N/A
Seating Capacity (# of belted seating positions) = 4

(2) Normal Load # of Occupants from Appendix
Occupant Distribution: Front Seat- 2 Second Seat- 0
Third Seat- N/A Fourth Seat- N/A

(3) Total Normal Occupant Load 136 KG (300 LB)
(# of occupants x 68 KG per occupant)

(4) Measured Normal Load on each Wheel and Axles (Sum)

LF 497 KG (1096 LB) LR 383 KG (845 LB)
RF 483 KG (1064 LB) RR 369 KG (814 LB)
Frt Axle 980 KG (2160 LB) Rr Axle 753 KG (1659 LB)

Total Vehicle 1732 KG (3819 LB)
(5) Calculated Vehicle Normal Load on the Tire
Front Tires (measured front axle normal load/2) = 490 KG (1080 LB)
Rear Tires (measured front axle normal load/2) = 376 KG (830 LB)

(6) High Speed Test Load from ( ) FMVSS 109 (5.5), or (X) FMVSS 119 (7.4)

<table>
<thead>
<tr>
<th></th>
<th>Front</th>
<th>Rear</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Installed Tire Size</td>
<td>P215/70R16</td>
<td>P215/70R16</td>
</tr>
<tr>
<td>Max. Load Rating on Sidewall</td>
<td>775 KG (1709 LBS)</td>
<td>775 KG (1709 LBS)</td>
</tr>
<tr>
<td>Reduced Sidewall Load Rating (if applicable)*</td>
<td>705 KG (1554 LBS)</td>
<td>705 KG (1554 LBS)</td>
</tr>
<tr>
<td>High Speed Test Load (88% of sidewall max. load rating)</td>
<td>620 KG (1368 LBS)</td>
<td>620 KG (1368 LBS)</td>
</tr>
<tr>
<td>(b) Optional Tire Size(s)</td>
<td>NONE</td>
<td>NONE</td>
</tr>
</tbody>
</table>

* If a passenger car tire is installed on a multipurpose passenger vehicle (MPV), truck or bus, the tire's load rating shall be reduced by dividing by 1.10.

REMARKS: The Vehicle Normal Load on the Tire is not greater than the High Speed Test Load.

RECORDED BY: [Signature]  DATE: 06/05/03
APPROVED BY: [Signature]
DATA SHEET 4
TIRE INFORMATION LABEL OR PLACARD

VEHICLE MAKE/MODEL/BODY STYLE: 2003 HONDA ELEMENT MPV
VEHICLE NHTSA NO.: C35309, VIN: 5J6YH28513L025140
LABORATORY: GENERAL TESTING LABORATORIES
TEST DATE: 06/05/03

A. Vehicle Type from Certification Label: MPV

B. Identify Vehicle Labeling:

Vehicle has a combined Certification Tire Information Label ( ) Yes (X) No _____
Is Label Permanently Affixed: ( ) Yes ( ) No
Label Location:
Description of Label:

Vehicle has a separate Tire Information Label or Placard (X) Yes ( ) No _____
Is Label Permanently Affixed: (X) Yes ( ) No
Label Location: Driver Door
Description of Label: Vinyl

C. Enter Information from Combined or Separate Tire Information Label/Placard

Vehicle Capacity Weight: 675 LBS

Designated Seating Capacity (DSC): N/A (see remarks)
Expressed In—
(1) Total No. of Occupants: (X) Yes ( ) No
(2) Terms of Occupants for Each Seat Location: ( ) Yes ( ) No

Manufacturer's Recommended Tire Size(s) and Cold Tire Inflation Pressure(s) for Maximum Load Vehicle Weight:

P215/70R16, 220 kPa (32 psi)
REAR: 235 kPa (34 psi)

Manufacturer's Recommended Tire Size(s) and Cold Tire Inflation Pressure(s) for Other Load Conditions: NONE

REMARKS: The vehicle labeling requirements of FMVSS 120 for an MPV do not include Vehicle Capacity Weight (VCW) or Designated Seating Capacity (DSP) as required by FMVSS 110 passenger car labeling.

RECORDED BY: DATE: 06/05/03

APPROVED BY:
DATA SHEET 5
VEHICLE TIRE DATA

VEHICLE MAKE/MODEL/BODY STYLE: 2003 HONDA ELEMENT MPV
VEHICLE NHTSA NO.: C35309  
VIN: 5J6YH28513L025140
LABORATORY: GENERAL TESTING LABORATORIES

TEST DATE: 06/05/03

All tires on the vehicle are the same size: (Yes/No)  Yes

INFORMATION FROM TIRE SIDEWALL:

Right Front Tire

Tire Size Designation  P215/70R16
Tire Load Index/Speed Symbol  99S
Maximum Inflation Pressure  300 kPa (44 psi)
Maximum Load Rating  775 KG (1709 LBS.)
Mfr. Name or Brand & Code  GOODYEAR WRANGLER GRANDTREK
Tube or Tubeless  TUBELESS
Treadwear/Traction/Temp. Grades  340/A/B
Sidewall (Plies & Composition)  2 PLY POLYESTER
Tread (Plies & Composition)  2 PLY POLYESTER  2 PLY STEEL
Serial Number: Right Front  DOT-EUYV 2K7R 1203

Tire has "DOT" markings: (X) YES  ( ) NO  ( ) UNDETERMINED

REMARKS:

RECORDED BY: [Signature]  DATE: 06/05/03

APPROVED BY: [Signature]
# Section 4

## Instrumentation and Equipment List

**Table 1 - Instrumentation & Equipment List**

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Description</th>
<th>Model/Serial No.</th>
<th>Cal. Date</th>
<th>Next Cal. Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pad Scales</td>
<td>#1 199744LF</td>
<td>199744LF</td>
<td>06/02</td>
<td>06/03</td>
</tr>
<tr>
<td></td>
<td>#2 199744RF</td>
<td>199744RF</td>
<td>06/02</td>
<td>06/03</td>
</tr>
<tr>
<td></td>
<td>#3 199744LR</td>
<td>199744LR</td>
<td>06/02</td>
<td>06/03</td>
</tr>
<tr>
<td></td>
<td>#4 199744RR</td>
<td>199744RR</td>
<td>06/02</td>
<td>06/03</td>
</tr>
<tr>
<td>Pressure Gage</td>
<td>Weskler</td>
<td>0-100</td>
<td>05/03</td>
<td>05/04</td>
</tr>
<tr>
<td>Surface Level</td>
<td>GTL</td>
<td>N/A</td>
<td>BEFORE USE</td>
<td>BEFORE USE</td>
</tr>
</tbody>
</table>
SECTION 5
PHOTOGRAPHS
Table 1 – Occupant Loading and Distribution for Vehicle Normal Load for Various Designated Seating Capacities

<table>
<thead>
<tr>
<th>Designated Seating Capacities, numbers of Occupants</th>
<th>Vehicle normal load, number of occupants</th>
<th>Occupant distribution in a normally loaded vehicle</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 through 4</td>
<td>2</td>
<td>2 in front</td>
</tr>
<tr>
<td>5 through 10</td>
<td>3</td>
<td>2 in front, 1 in second seat</td>
</tr>
<tr>
<td>11 through 15</td>
<td>5</td>
<td>2 in front, 1 in second seat, 1 in third seat, 1 in fourth seat</td>
</tr>
<tr>
<td>16 through 22</td>
<td>7</td>
<td>2 in front, 2 in second seat, 2 in third seat, 1 in fourth seat</td>
</tr>
</tbody>
</table>

NOTE: For the indicant test each seat was adjusted to its full down and mid forward to aft position with the seat back adjusted to a 25° reclined angle. Each designated seat position was ballasted with 54 KG (120 LBS) in the seat and 14 KG (30 LBS) on the floor directly in front of the respective seat position.